## REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

At the outset, appreciation is expressed to Examiner Nguyen for her time and attention during the interview that was conducted at the U.S. Patent and Trademark Office on April 20, 2006. The remarks below discuss the substance of the interview.

In light of the rejection of independent Claim 1 based primarily on the disclosure in British Patent Specification No. 1,127,731 to *Montgomerie et al.*, considered together with the disclosures in U.S. Patent No. 4,526,205 to *Sugimura et al.* and U.S. Patent No. 4,807,945 to *Budecker et al.*, Claim 1 has been amended to more clearly set forth one of the differences between the hydraulic circuit at issue here and the disclosures in the applied references. Thus, Claim 1 has been amended to delete the recitation of the bellows that divides the pressure space into a gas chamber and a hydraulic fluid chamber and to delete the recitations that the discharge passage is independent of the inflow passage and the inflow passage is in non-communication with the gas chamber. As discussed during the interview, Claim 1 has been amended to recite that the air discharge passage of the valve mechanism only discharges air from the hydraulic fluid chamber to the hydraulic actuator in the state in which the accumulator does not operate, and to also recite that the air discharge passage is not used for discharging when the accumulator operates.

For purposes of explanation only, the present application describes, for example in connection with the Fig. 2 embodiment of the hydraulic circuit, that the valve mechanism Vo includes an air discharge passage 12d1 for discharging air

from the hydraulic fluid chamber R2 when the hydraulic fluid chamber is being filled with hydraulic fluid. In the illustrated embodiment, the air discharge passage 12d1 is provided in the valve spool 12d and can be in the form of an air discharge hole 12d1, an air discharge groove, or the like. As discussed on page 10 of the application, when the pressure in the hydraulic fluid chamber reaches at least the set pressure, the accumulator operates. At this time, the air discharge passage is not used for discharging because the valve spool 12d of the valve mechanism Vo is moved out of the upper end of the pipe 16.

In the hydraulic circuit at issue here, a pre-filling of the hydraulic fluid chamber can be readily carried out in a state in which the pressure in the hydraulic fluid chamber has not reached the set pressure because air can be discharged from the hydraulic fluid chamber by way of the air discharge passage. However, this air discharge passage is not used when the pressure in the hydraulic fluid chamber has reached the set pressure (i.e., when the accumulator operates) because, as noted above, the valve spool is moved out of the upper end of the pipe 16.

Independent Claim 1 and dependent Claims 2 and 3 remain readable on the elected species.

Fig. 4 of *Montgomerie et al.* illustrates a pressure regulating device that includes a vessel 42 in which is located a bellows formed of dish-shaped resilient washers 43 and an end plate 44. A high pressure port 40 communicates with the space in the vessel 42, but outside the bellows, by way of a passage 41. The high pressure port 40 also communicates with the interior of the bellows through an orifice 45 outfitted with a variable restrictor 46. A control element 47 is carried on the end plate 44 and is positioned within a sleeve 48. When fluid flows from the high

pressure port 40 to the outlet port 49, the restricted orifice 45 causes the pressure within the bellows to fall below the pressure outside the bellows. When this pressure difference is greater than the pre-stressing of the dished resilient washers 43, the control element 47 is progressively displaced into the sleeve 48 as the pressure drop increases as described beginning near the bottom of the left column of page two and extending to the top of the right column of page two. The control element 47 possesses a groove 47a allowing liquid to flow into the sleeve 48, but progressively restricting flow as the pressure drop rises.

It is understood from the Official Action that the groove 47a in the control element 47 disclosed in *Montgomerie et al.* is interpreted as corresponding to the claimed air discharge passage. However, as discussed during the interview, the air discharge passage recited in Claim 1 differs from the groove 47a disclosed in *Montgomerie et al.* Claim 1 recites that the air discharge passage only discharges air from the hydraulic chamber to the hydraulic actuator in the state in which the accumulator does not operate, and also recites that the air discharge passage is not used for discharging when the accumulator operates. As explained during the interview, the groove 47a in *Montgomerie et al.* is used when the regulator operates as well as when the regulator does not operate. Thus, the claimed hydraulic circuit at issue here is patentably distinguishable over the disclosure in *Montgomerie et al.* because *Montgomerie et al.* lacks disclosure that the groove 47a only discharges air from the hydraulic chamber to the hydraulic actuator in the state in which the accumulator does not operate, and is not used for discharging when the accumulator operates. Further, as discussed during the interview, the disclosures in *Sugimura et al.* and *Budecker et al.* which are relied upon in the Official Action for the disclosure

of other features, do not make up for the deficiencies pointed out above with respect to the disclosure in *Montgomerie et al.* Accordingly, the disclosures in *Montgomerie et al.*, *Sugimura et al. and* Budecker et al. considered together would not have motivated one to construct a hydraulic structure having the features recited in independent Claim 1.

Examiner Nguyen stated during the interview that the amended version of Claim discussed during the interview and presented here would raise new issues requiring further consideration and/or search, and so an Amendment including such amended version of Claim 1 would not be entered. Thus, this Amendment is being filed concurrently with a Request for Continued Examination.

Examiner Nguyen indicated during the interview that the three cited references do not disclose a valve mechanism having, in combination with the other claimed features, an air discharge passage as recited in amended Claim 1. However, Examiner Nguyen also stated that she would need to consider whether it would have been obvious to modify the construction of the pressure regulator described in *Montgomerie et al.* so that the control element 47 is able to move completely out of the sleeve 48 when sufficient fluid pressure exists in the bellows. That is, the Examiner commented that *Montgomerie et al.* illustrates in Fig. 4 that the end plate 44 has a relatively large thickness. The Examiner indicated that if this end plate 44 was reduced in thickness so that a space exists between the top surface of the end plate 44 and the inside surface of the top wall of the vessel 42, the control element 47 could move upwardly out of the sleeve 48.

However, as explained during the interview, there is certainly no disclosure or suggestion of such a modification in *Montgomerie et al.* Further, the construction

and intended operation of the device disclosed in *Montgomerie et al.* supports the conclusion that such a modification would not have been obvious to an ordinarily skilled artisan.

The device in *Montgomerie et al.* utilizes pre-stressed washers that are forced into axial engagement with one another by virtue of the fact that the washer at one end of the bellows contacts the end plate 44 (which rests against the top wall of the vessel 42) while the washer at the other end of the bellows contacts the bottom of the vessel 42. As best understood from the description in *Montgomerie et al.*, it would not seem possible that there could be a space between the top surface of the end plate 44 and the inner surface of the top wall of the vessel 42 sufficient to allow the control element 47 to move completely out of the sleeve 48 because there would be nothing to keep the washers 43 together.

In addition, the device shown in Fig. 4 of *Montgomerie et al.* is described as being a pressure regulator in which pressure entering the high pressure port 40 flows into the bellows by way of the orifice 45 (and the restrictor 46) and also flows outside the bellows by way of the passage 41. This is specifically designed to cause the pressure outside the bellows to be greater than the pressure inside the bellows so that when the pressure differential exceeds the pre-stress on the washers 43, the control element 47 moves into the sleeve 48. It is understood that the pressure inside the bellows will rise and fall as the control element 47 moves (up and down). However, considering that fluid is always flowing into the space outside the bellows, it is difficult to see how the device could be operated so that the control element 47 moves completely out of the sleeve 48.

Further, even assuming it would have been obvious to configure the device disclosed in *Montgomerie et al.* so that the control element 47 moves upwardly completely out of the sleeve 48, the resulting pressure regulator would still not correspond to the claimed hydraulic circuit. If the Examiner's position is properly understood, the situation that would exist with the control element 47 in *Montgomerie et al.* located completely out of the sleeve 48 would correspond to the state in which the accumulator does not operate. Thus, the groove 47a would not be used for discharging when the accumulator does not operate. This is exactly the opposite of the recitation in Claim 1 reciting that the air discharge passage is not used for discharging when the accumulator operates. Further, this hypothetical modification would mean that the control element 47 (which is said to correspond to the claimed valve mechanism) does not restrict the discharge of the hydraulic fluid from the chamber inside the bellows to the port 49 in a state in which the accumulator/pressure regulator does not operate. Once again, this is directly contrary to the recitation in Claim 1 reciting that the valve mechanism restricts the discharge of the hydraulic fluid from the hydraulic fluid chamber to the hydraulic actuator in a state in which the accumulator does not operate.

For at least the reasons set forth above, it is respectfully submitted that the claimed hydraulic circuit at issue here is patentably distinguishable over the disclosures in the applied documents. Accordingly, withdrawal of the rejection of record and allowance of this application are earnestly solicited.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful

in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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